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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,453	06/23/2003	Leslie James Record	NWISP026	9359
22434	7590	04/29/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP			CHANG, YEAN HSI	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	
			2835	

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

2

Office Action Summary	Application No.	Applicant(s)	
	10/602,453	RECORD ET AL.	
	Examiner	Art Unit	
	Yean-Hsi Chang	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-18 and 20-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 is/are allowed.
- 6) ☒ Claim(s) 1-11, 14, 16-18 and 20-26 is/are rejected.
- 7) ☒ Claim(s) 11, 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 18, 20-21 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Carteau (US 6,292,360 B1).

Carteau teaches a disk drive carrier chassis (40, fig. 15) being configured to receive each of a plurality of disk drive carrier cages (a backplane module 20 or 41 may include a cage, a backplane and backplane connectors, figs. 11 and 13), each of the disk drive carrier cages being configured to receive a corresponding one of a plurality of different disk drive carrier types (32 and 33) (claim 18); a carrier cage receptacle (40) which is configured to receive each of the plurality of disk drive carrier cages (see fig. 18) (claim 20); a backplane (backplane of backplane module 41) affixed to the disk drive carrier chassis and comprising a first connector (shown in fig. 15, not labeled), wherein the carrier cage receptacle and the plurality of disk drive carrier cages are configured to facilitate connection between the first connector and a second connector (32 or 33 shown in figs. 12 and 14) on each of the disk drive carrier types (see fig. 18) (claim 21); wherein the chassis is configured to receive more than one of the disk drive carrier

Art Unit: 2835

cages simultaneously (see figs. 15-18) (claim 23); wherein the more than one of the disk drive carrier cages correspond to a single disk drive carrier type (see fig. 16) (claim 24); wherein the more than one of the disk drive carrier cages correspond to multiple disk drive carrier types (see fig. 18) (claim 25).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-11, 14, 16-17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (US 5,790,374) in view of Gallagher et al. (US 6,628,513 B1).

Wong teaches a computer system (fig. 1) comprising a disk drive carrier chassis (for example, 21) configured to receive each of a plurality of disk drive carrier cages (upper and lower cages), each of the disk drive carrier cages being configured to receive a corresponding one of a plurality of disk drive carrier types (carrier types for 3.5" and 5.25"; see col. 2, lines 64-65), the computer system further comprising a backplane (23) coupled to the carrier chassis, the backplane comprising: a connector (24) for interfacing with a corresponding connector (32) on one of the carrier types; and a plurality of differently configured status indicator arrays (27 fig. 3) associated with the connector, each of the arrays corresponding to one of the carrier types and being

Art Unit: 2835

operable to transmit disk drive status information (see col. 3, lines 32-35), each of the arrays being positioned to interface with a corresponding status interface (29) on the corresponding carrier type (claims 1-3 and 26); at least one shorting jumper (29 may be considered as a jumper) or at least one switch (the coupling between 27 and 29 may be considered as a switch) to effect gating of the signals (claims 4-5); wherein the signals comprise any of an activity signal from the particular one of the carrier types, a power signal, a fault signal from the particular one of the carrier types, and a fault signal derived from an external source (see col.3, lines 32-35) (claim 6); wherein the connector comprises a SCA-2 connector as defined by the ANSI T-10 Committee for SCSI interfaces (SCA-2 connectors are available on-the-shelf) (claim 7); wherein each of the status indicator arrays comprises at least one light source (27) operable to transmit the disk drive status information (see col.3, lines 32-35) (claims 8-9); a light pipe (29) adapter operable to facilitate connection between one of the status indicator arrays and the status interface of the corresponding carrier type (claim 10); wherein the one of the status indicator arrays comprises a first number of light sources (27), the light pipe adapter being operable to facilitate transmission of the disk drive status information from the first number of light sources to a second number of status indicators (25) via the status interface (29) of the corresponding carrier type (claim 11); wherein each of the status indicator arrays comprises at least one electrical contact operable to transmit the disk drive status information (27 may have an electrical contact) (claim 16); and wherein the at least one electrical contact represents any of a drive activity signal, a fault signal, and a power signal (see col. 3, lines 32-35) (claim 17).

Wong fails to teach the connector of the backplane interfacing with a corresponding connector on each of the plurality of disk drive carrier types.

Gallagher teaches a disk drive backplane (322, fig. 7) for interfacing with a plurality of disk drive carrier types (700 and 800), the backplane comprising: a connector (500) for interfacing with a corresponding connector (for example, 708) on each of the carrier types (claims 1, 14 and 26).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Wong with the backplane taught by Gallagher for providing a backplane being capable of interfacing with a plurality of disk drive carrier types.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carteau in view of Wong.

Carteau discloses the claimed invention except the backplane further comprising a plurality of status indicator arrays, each of the arrays corresponding to at least one of the carrier types and being operable to transmit disk drive status information, each of the arrays being positioned to interface with a corresponding status interface on the at least one corresponding carrier type.

Wong teaches a disk drive carrier chassis (21, fig. 1) comprising a backplane (23) affixed to the disk drive carrier chassis, including a plurality of status indicator arrays (27) being operable to transmit disk drive status information (see col. 3, lines 32-

Art Unit: 2835

35), and being positioned to interface with a corresponding status interface (29) on the at least one corresponding carrier type (see fig. 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Carteau with the backplane taught by Wong for indicating the status of the disk drive.

Allowable Subject Matter

6. Claim 27 is allowed.

7. Claims 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The best prior art of record, Carteau (US 6,292,360 B1), Wong (US 5,790,374), and Gallagher et al. (US 6,628,513 B1), taken alone or in combination, fails to teach or fairly suggest a disk drive backplane comprising: a first number of light sources of one of a plurality of status indicator arrays of the disk drive backplane, being greater than a second number of status indicators receiving status information from the first number of light sources via light pipes as set forth in claim 12, fewer than a second number of status indicators receiving status information from the first number of light sources via light pipes as set forth in claim 13, or being not equal to a second number of status

indicators receiving status information from the first number of light sources via the status interface as set forth in claim 27.

Response to Arguments

9. Applicant's arguments filed Apr. 18, 2005 have been fully considered but they are not persuasive.

Regarding claims 18, 20-21 and 23-25, Applicants argue that:

"If the Examiner is comparing the disk drive canisters 42 and 43 of Carteau to the disk drive carriers types recited in claim 18, then Carteau fails to describe the recited disk drive carrier cages configured to receive the different disk drive carrier types. On the other hand, if the Examiner is comparing Carteau's disk drive canisters to the recited disk drive carrier cages, it is unclear how the described structures are configured to receive a corresponding one of a plurality of different disk drive carrier types. In either scenario, Carteau fails to disclose key limitations of claim 18."

It is clearly stated in the specification and shown in the drawings of Carteau that the chassis 40 incorporates five disk drive carrier cages 41A-41E (named as backplane modules in the specification) shown in fig. 15, and col. 5, lines 20-23; each of the disk drive carrier cages is configured to receive a corresponding one of a plurality of different disk drive carrier types (named as canisters) 32 and 33 as shown in figs. 12 and 14. Even though there is no detail description of a backplane module 20 in figs. 11-14 or 41

Art Unit: 2835

in fig. 15, however, it would be inherent that a cage like structure in place to support the canisters in the backplane modules.

Regarding claims 1-11, 14, 16-17 and 26, Applicants argue that "claim 1 of the present application recites a connector for interfacing with a corresponding connector on each of a plurality of disk drive carrier types. Wong fails to show this important feature." Firstly, Wong teaches cabinet including 3.5" drive, 5.25" drive, and SCA drive modules as stated in col. 2, line 62 through col. 3, line 4, and shown in fig. 1, which are different types; secondly, with disk drives installed, it would be obvious to one having ordinary skill in the art that there is backplane 23 in the lower chassis 21 as shown in figs 1 and 2, and there may be backplane (not shown) in the upper chassis (not labeled) for interfacing with the disk drive carriers of different types (i.e. 3.5" and 5.25"); and thirdly, after modification of the backplane of Wong with the backplane taught by Gallagher for connections to each of a plurality of disk drive carrier types, backplane 23 would also be capable to have connectors for interfacing with a corresponding connector on each of the carrier types.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

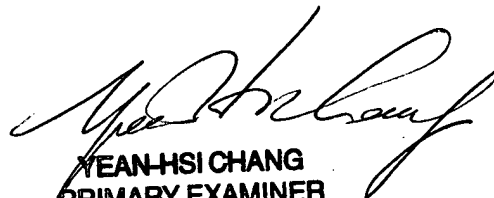
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yean-Hsi Chang whose telephone number is (571) 272-2038. The examiner can normally be reached on 08:00 - 16:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the Art Unit phone number is (571) 272-2800, ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2835

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8558.

Yean-Hsi Chang
Primary Examiner
Art Unit: 2835
April 27, 2005



YEAN-HSI CHANG
PRIMARY EXAMINER